



2020/2021 Crop

TRIGO ARGENTINO

Institutional
quality report

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FINAL CONSIDERATIONS AND SAMPLING STRUCTURE

The 2020/2021 Argentina wheat season has estimated a total production of 17 million tons, that is 13% compared to the 2019/2020 volume. Planted area would have been 6.5 million hectares and the harvested area was 7% less, mainly due to losses in the north. The national average yield would reach 2800 kg/ha, less than last year. Unlike the three previous growing seasons that were very affected by diseases (rusts), this year agroclimatic stresses impacted on production.

The little water availability in the central north pampeana region, including a big part of the subregion II north and mainly the V north, the northeastern region (NEA) and the northwest region (NOA) was a limiting factor that affected

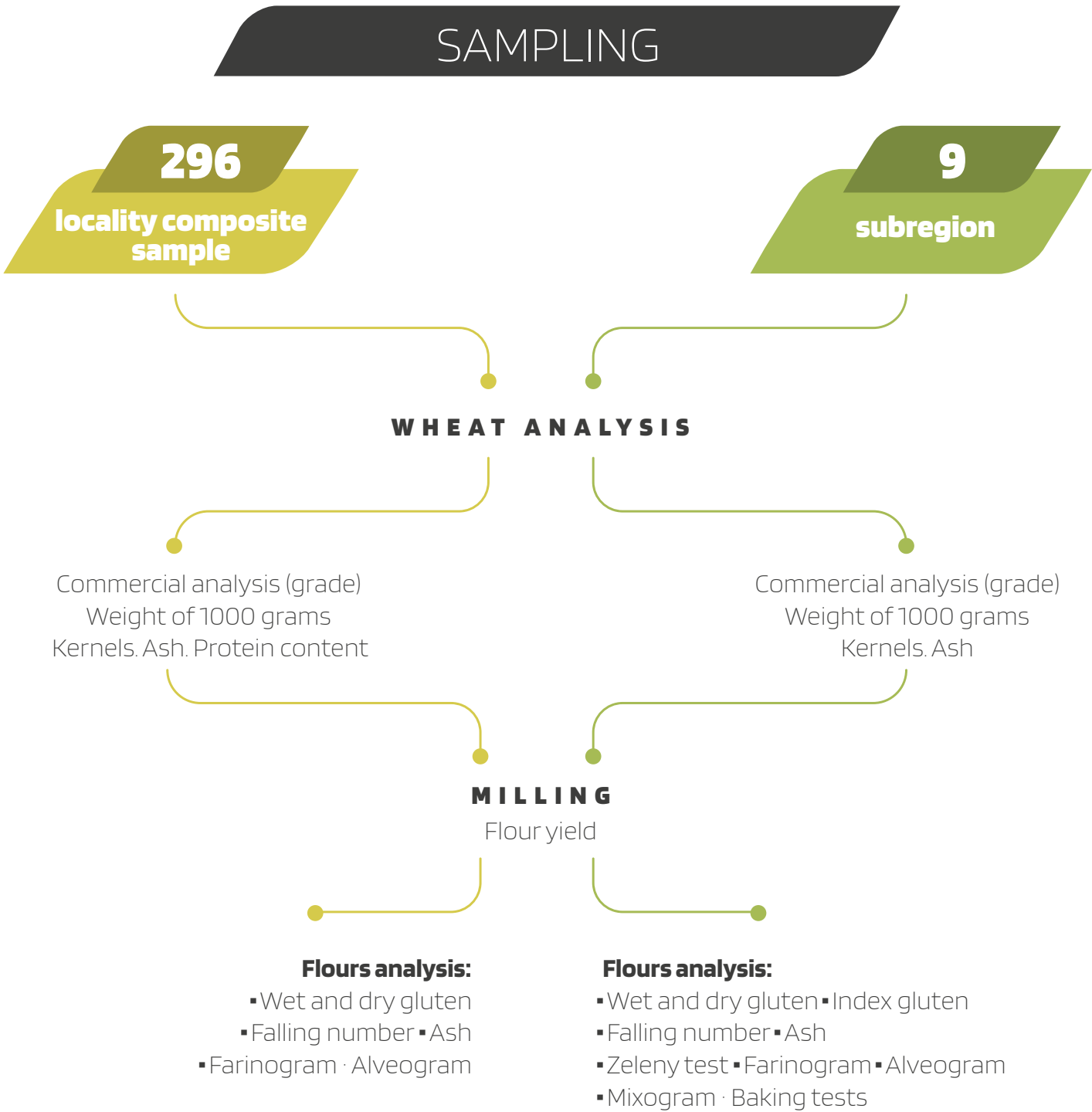
the sowing area. Winter few rains and heavy frosts affected yield everywhere in the wheat producing area. There were no rains in May, June, July or August across a vast area. In the southeast of Cordoba, for example, only 25 to 30 mm in the first week of September. In Entre Rios, rains were not so scarce and in Buenos Aires the conditions were more favorable, which compensated the losses.

The central north region registered many days with agro-meteorological frosts, some above damage thresholds, which affected the foliar area and the crop biomass at crucial times. At grain filling, things changed; isolated rains helped but they were always below average.

Planted acreage, harvested acreage, production and yield, by sub-regions	SUBREGION	AREA PLANTED	AREA HARVESTED	YIELD	PRODUCTION
	Sub I	850.250	810.850	1,77	1.436.020
	Sub II N	961.550	910.840	2,46	2.238.202
	Sub II S	1.179.800	1.166.240	4,00	4.663.056
	Sub III	549.700	546.200	2,60	1.419.630
	Sub IV	651.540	651.540	4,42	2.880.540
	Sub V N	550.960	508.860	1,68	853.668
	Sub V S	1.139.053	1.110.103	2,67	2.968.382
	NEA	326.580	233.280	1,26	294.828
	NOA	371.815	316.070	1,23	389.281
	TOTAL	6.581.248	6.253.983	2,74	17.143.607

SUBREGION	LOCALITY COMPOSITE	SAMPLING (TONS)	PRODUCTION (TONS)	PRODUCTION SAMPLED
I	28	104530	1436.020	8,38%
II N	51	277637	2.238.202	13,06%
II S	60	199000	4.663.056	27,20%
III	31	99980	1.419.630	8,28%
IV	36	128317	2.880.540	16,80%
V N	31	128040	853.668	4,98%
V S	54	163444	2.968.382	17,31%
NEA	1	4000	294.828	1,72%
NOA	4	11000	389.281	2,27%
National	296	1115948	17.143.607	100,00%

Procedure to obtain analytical results



National summary by subregions

Results of all the analyzed variables

SUBREGIONS	I	IIN	IIS	III	IV	VN	VS	NEA	NOA	* Pondered Average
GRAIN										
Test Weight (kg/hl)	79,09	77,97	79,3	79,24	79,3	78,82	80,94	76,60	79,93	79,13
Weight of 1000 kernels (gr)	30,51	32,10	35,65	33,12	38,56	31,45	34,73	29,19	33,12	33,75
Ahs (dry basis) %	1,969	1,906	1,710	1,062	1,605	1,855	1,766	1,946	1,766	1,74
Protein (13,5% Moisture) (%)	11,9	12,9	10,4	11,1	10,1	12,1	11,3	9,6	11,4	11,54
Protein (dry basis) (%)	13,7	14,9	12	12,8	11,7	14	13,1	11,1	13,2	13,34
Ash (dry basis) %	0,600	0,651	0,563	0,578	0,562	0,603	0,571	0,741	0,759	0,60
Color										
L	89,04	89,17	89,34	88,88	89,61	88,78	89,21	88,78	88,76	89,17
a	-1,63	-1,65	-1,81	-1,69	-1,79	-1,61	-1,68	-1,45	-1,39	1,69
b	7,76	8,16	8,38	8,51	8,29	8,23	8,28	7,45	7,49	8,22
HARINA										
Moisture (%)	12,73	14,73	13,18	12,84	13,64	13,18	12,43	12,4	12,76	13,43
Protein (%)	11	11,8	9,4	10,6	9,7	11,5	10,7	9,5	10,5	10,7
Wet Gluten (%)	28,1	32,1	24,4	26	23,8	30,1	27,5	20	25,7	27,87
Dry Gluten (%)	9,6	11,2	9,1	9,2	8,7	10,50	9,6	7,0	9,5	9,86
Index Gluten (%)	98	97	99	97	97	97	98	99	98	98
Falling Number (seg)	400	458	415	372	373	434	430	430	419	420,04
Zeleny Test (cc)	34	40	35	36	40	43	41	36	39	39
FARINOGRAM										
Water Absorption (%)	57,5	59,9	55,4	57,5	55,6	58,4	59,6	60,9	64,9	57,98
Development Time (min)	9	10,2	12,9	8,7	11,90	8,8	8,1	11,9	14	10,18
Stability (min)	21	19,8	36	18,7	35,1	17	16,4	27	26,6	23,73
Degree pf Softening (U.F.)	29	29	16	38	30	39	34	19	17	29,44
Quality Number	261	285	50	181	293	248	316	600	330	234
MIXOGRAM										
Development Time (min)										
ALVEOGRAM										
P (mm)	89	89	89	80	98	80	108	130	157	91,87
L (mm)	79	111	78	94	62	113	82	36	43	90,31
G	24,6	26,5	20,8	24	20,4	24,8	22,6	13,4	14,9	23,45
W (Joules x 10-4)	263	322	251	257	228	296	315	195	284	282,56
P/L	1,23	0,89	1,24	0,91	1,71	0,68	1,38	3,61	3,98	1,17
Ie %	56,5	61	55,1	56,3	56,8	57,3	55,2	0	49,3	57,01
W (40) (Joules x 10-4)	130	322	141	122	145	144	140	0	200	142
RVA										
Maxim Viscosity (RVU)	189,33	197,67	195,75	167,58	143,17	172,08	207,17	165,5	174,75	185,70
Minimum Viscosity (RVU)	124,08	135	124,17	102	68,25	104,17	134,83	99,17	114	118
Final Viscosity (RVU)	224,33	236,17	222,42	187,5	141,67	200,33	238,67	192,83	208,42	213,21
BAKING										
Absorption (%)	62	63	61	62	61	62,5	62	62,5	62	62
Development Time (min)	03:30	04:00	03:00	03:30	03:00	04:00	03:30	02:30	03:00	03:31
Fermentation Time (min)	160	160	160	160	160	160	160	160	160	160
Loaf Volume (cc)	650	650	575	620	610	635	600	385	450	617
Specific Volume (cc/gr)	4,7	4,9	4,2	4,5	4,4	4,7	4,4	2,7	3,2	4,5

Argentine wheat

Main Quality Parameters

Subregion NOA

Test Weight (kg/hl)

79,93

Grade

1	2	3	F/E
0%	50%	50%	0%

Protein (13,5 Moisture) (%)

11,4

Protein (s.s.s.) (%)

13,2

Wet Gluten (%)

25,7

W Alveogram (Joules 10-4)

284,4

Farino Stability (min)

26,6

Subregion V N

Test Weight (kg/hl)

78,80

Grade

1	2	3	F/E
12,9%	67,74%	16,13%	3,23%

Protein (13,5 Moisture) (%)

12,1

Protein (s.s.s.) (%)

14,0

Wet Gluten (%)

30,1

W Alveogram (Joules 10-4)

296,1

Farino Stability (min)

17,0

Subregion V S

Test Weight (kg/hl)

80,90

Grade

1	2	3	F/E
13,46%	78,85%	7,69%	0%

Protein (13,5 Moisture) (%)

11,3

Protein (s.s.s.) (%)

13,1

Wet Gluten (%)

27,5

W Alveogram (Joules 10-4)

315,3

Farino Stability (min)

16,4

Subregion IV

Test Weight (kg/hl)

79,30

Grade

1	2	3	F/E
55,56%	38,89%	5,56%	0%

Protein (13,5 Moisture) (%)

10,1

Protein (s.s.s.) (%)

11,7

Wet Gluten (%)

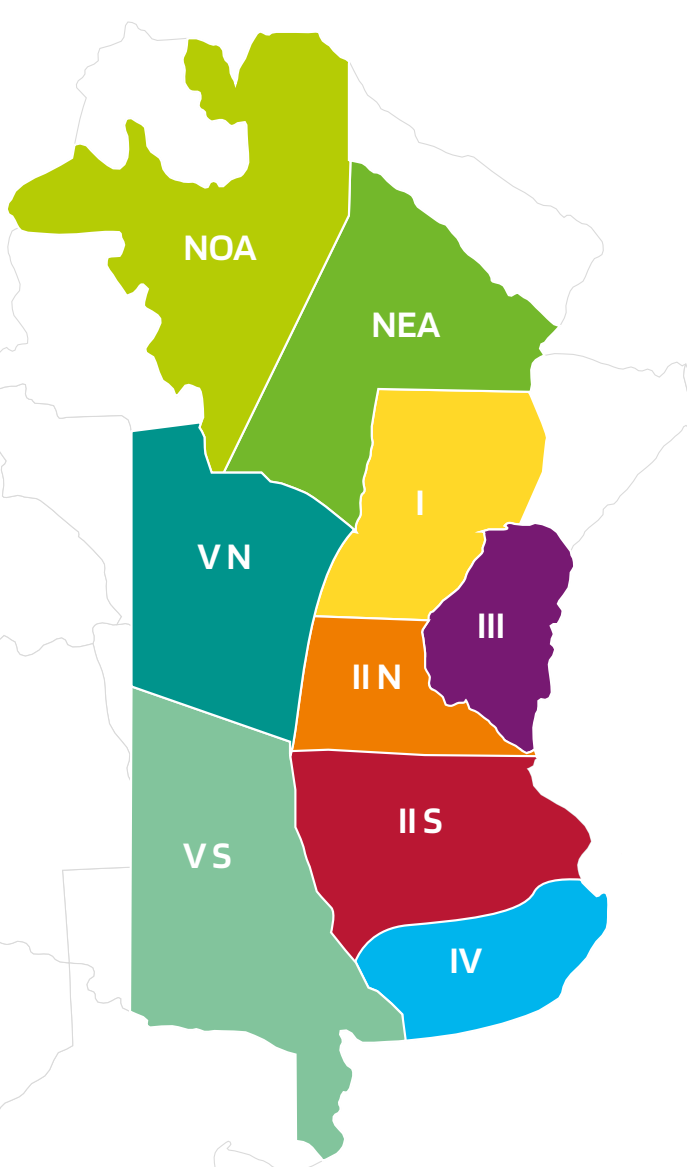
23,8

W Alveogram (Joules 10-4)

227,6

Farino Stability (min)

35,1



Subregion NEA

Test Weight (kg/hl)

76,60

Grade

1	2	3	F/E
0%	100%	0%	0%

Protein (13,5 Moisture) (%)

9,6

Protein (s.s.s.) (%)

11,1

Wet Gluten (%)

20

W Alveogram (Joules 10-4)

195

Farino Stability (min)

27

Subregion I

Test Weight (kg/hl)

79,10

Grade

1	2	3	F/E
3,57%	92,86%	0%	3,57%

Protein (13,5 Moisture) (%)

11,9

Protein (s.s.s.) (%)

13,7

Wet Gluten (%)

28,1

W Alveogram (Joules 10-4)

262,7

Farino Stability (min)

21,0

Subregion IIN

Test Weight (kg/hl)

77,97

Grade

1	2	3	F/E
17,65%	68,63%	13,73%	0%

Protein (13,5 Moisture) (%)

12,9

Protein (s.s.s.) (%)

14,9

Wet Gluten (%)

32,1

W Alveogram (Joules 10-4)

322

Farino Stability (min)

19,8

Subregion III

Test Weight (kg/hl)

79,13

Grade

1	2	3	F/E
22%	68%	9%	0%

Protein (13,5 Moisture) (%)

11,5

Protein (s.s.s.) (%)

13,3

Wet Gluten (%)

27,9

W Alveogram (Joules 10-4)

282,6

Farino Stability (min)

23,7

Subregion II S

Test Weight (kg/hl)

79,30

Grade

1	2	3	F/E
18,33%	80%	1,67%	0%

Protein (13,5 Moisture) (%)

10,4

Protein (s.s.s.) (%)

12

Wet Gluten (%)

24,4

W Alveogram (Joules 10-4)

250,9

Farino Stability (min)

36

Subregion II N

Test Weight (kg/hl)

79,2

Grade

1	2	3	F/E
41,94%	41,94%	16,1%	0%

Protein (13,5 Moisture) (%)

11,1

Protein (s.s.s.) (%)

12,8

Wet Gluten (%)

26,0

W Alveogram (Joules 10-4)

257

Farino Stability (min)

18,7

BREAD WHEAT

National averages

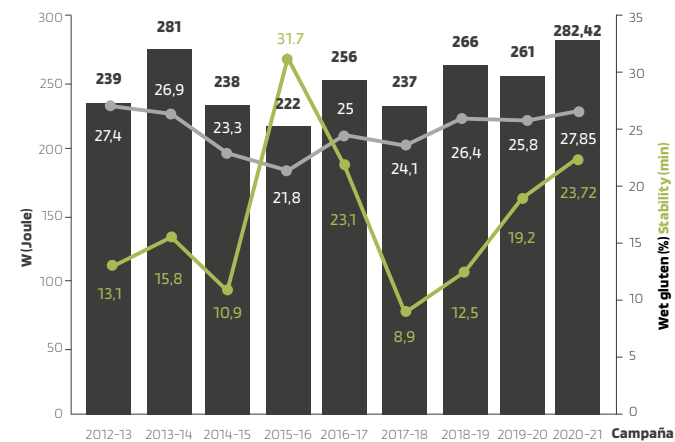
Weighted averages by tons produced in each region



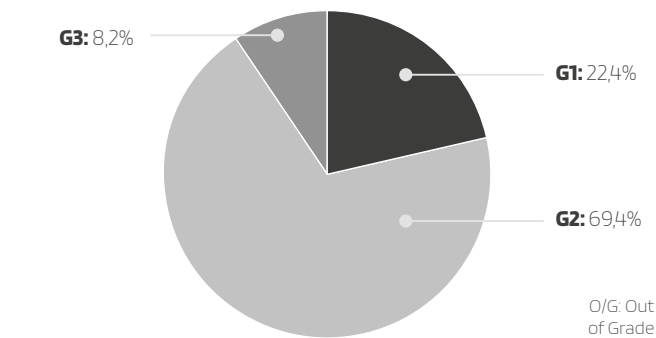
WHEAT ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
Test Weight (kg/hl)	77,97	80,94	79,13
Total Damaged Kernels (%)	0,14	0,86	0,52
Foreign Material (%)	0,18	0,93	0,29
Shrunken and Broken Kernels (%)	0,27	0,78	0,44
Yellow Berry Kernels (%)	1,4	6,7	3,14
Protein (13,5% Moisture) (%)	10	12,91	11,54
Protein (dry basis) (%)	11,57	14,93	13,34
Weight of 1000 Kernels (g.)	30,51	40,82	33,75
Ash (dry basis.) (%)	1,06	1,97	1,74

FLOUR ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
MILLING			
Wet Gluten (%)	22,94	32,11	27,87
Dry Gluten (%)	8,5	11,16	9,86
Falling Number (sec.)	360,99	458,39	420,04
Flour Yield (%)	68,74	73,79	70,79
Ash (dry basis) (%)	0,55	0,76	0,60
FARINOGRAM			
Water Absorption (14% H ² O) (%)	53,34	64,92	57,98
Development Time (min.)	7,64	15,09	10,18
Stability (min.)	12,93	51,97	23,73
Degree of Softening (12 min.)	16,02	46,72	29,44
ALVEOGRAM			
P (mm)	80,45	156,55	91,87
L (mm)	42,73	113,4	90,31
W joules X 10 ⁻⁴	205,03	321,84	282,56
P / L	0,75	3,98	1,17

W, wet gluten y stability



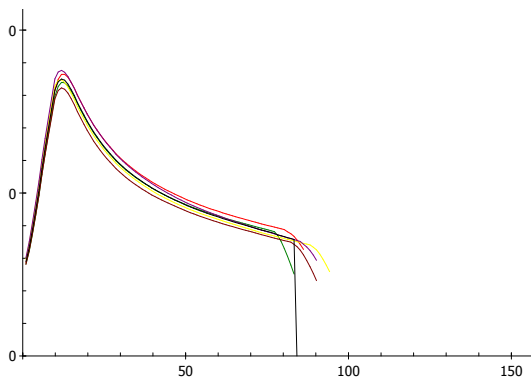
Grade distribution



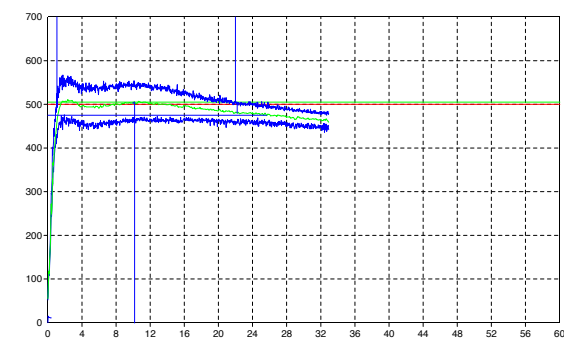
Protein 13,5% vs. Test weight



Alveogram



Farinogram



BREAD WHEAT

Subregion I. Analysis results

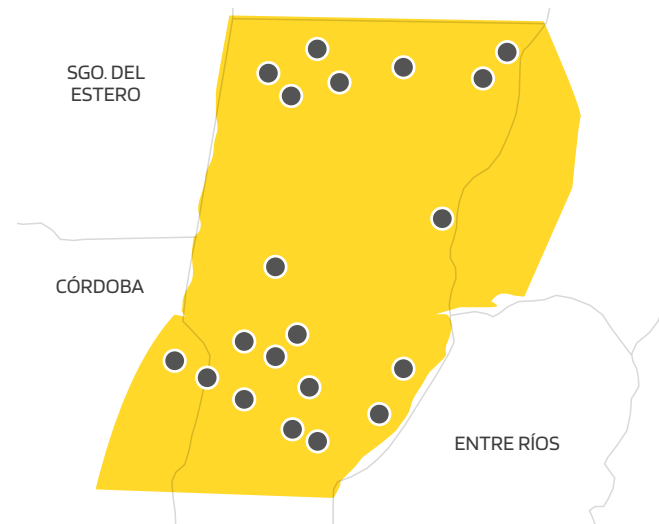
Weighted averages by tons of samples sets per location

WHEAT ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
Test Weight (kg/hl)	71,00	82,60	79,09
Total Damaged Kernels (%)	0,12	0,66	0,36
Foreign Material (%)	0,04	0,44	0,18
Shrunken and Broken Kernels (%)	0,30	1,14	0,78
Yellow Berry Kernels (%)	0,00	18,10	6,70
Protein (13,5% Moisture) (%)	10,3	13,6	11,9
Protein (dry basis) (%)	11,9	15,7	13,7
Weight of 1000 Kernels (g.)	25,70	35,24	30,51
Cenizas (S.S.S.) (%)	1,724	2,117	1,969

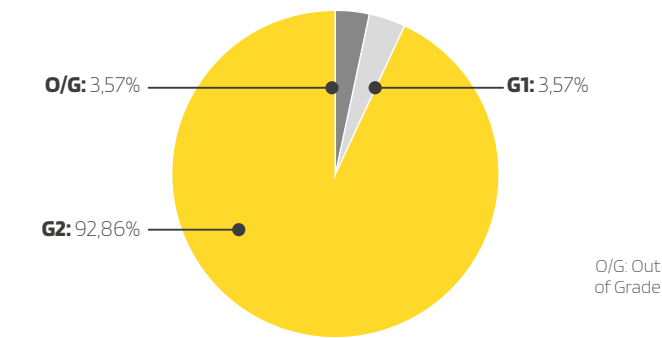
FLOUR ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
MILLING			
Wet Gluten (%)	23,7	36,4	28,1
Dry Gluten (%)	8,3	11,4	9,6
Falling Number (sec.)	364	442	400
Flour Yield (%)	66,5	71,4	68,7
Ash (dry basis) (%)	0,310	0,805	0,600
FARINOGRAM			
Water Absorption (14% H ² O) (%)	54,4	64,2	57,5
Development Time (min.)	1,5	33,0	9,0
Stability (min.)	1,8	41,0	21,0
Degree of Softening (12 min.)	5	96	29
ALVEOGRAM (*)			
P (mm)	74	112	89
L (mm)	38	108	79
W Joules x 10 ⁻⁴	170	332	263
P / L	0,74	2,66	1,23

SD: No Statistical Data

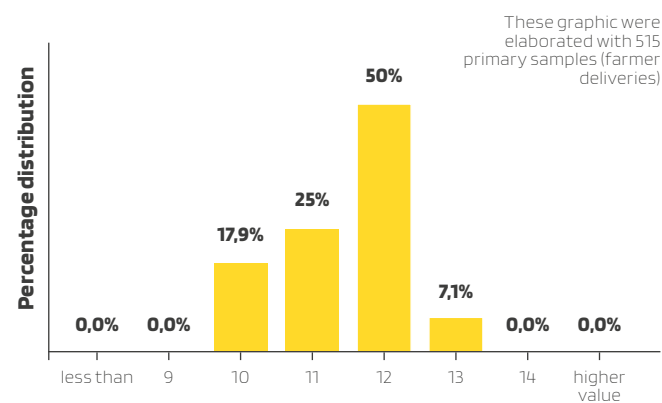
(*) There is not enough data to estimate the statistical indicator



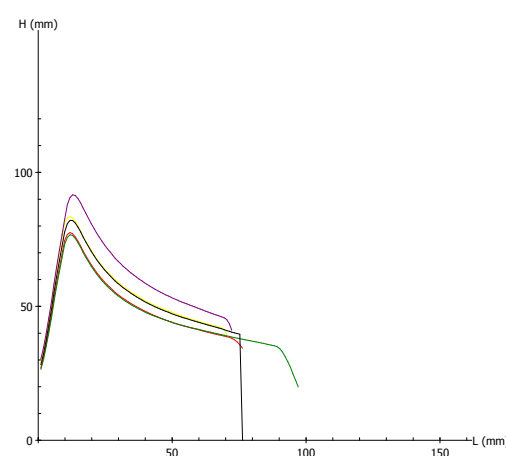
Grade distribution



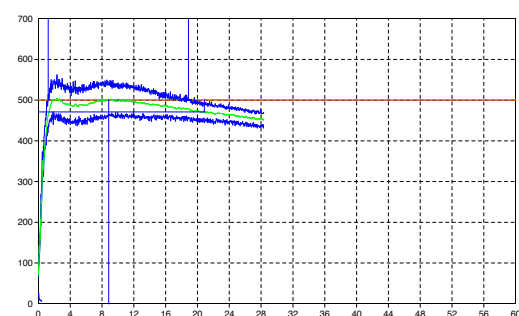
Protein (13.5% Moisture)



Alveogram



Farinogram



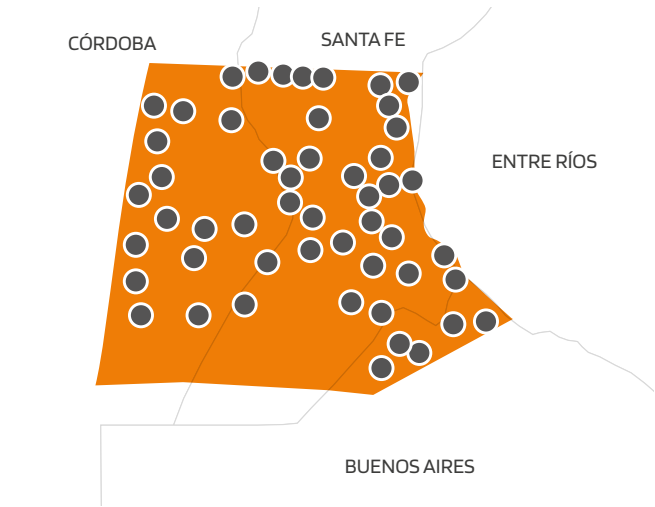
BREAD WHEAT

Subregion II N. Analysis results

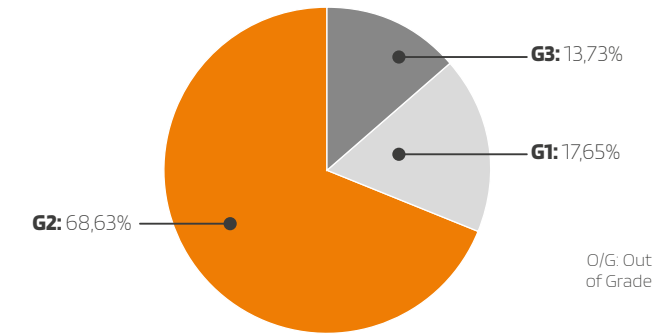
Weighted averages by tons of samples sets per location

WHEAT ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
Test Weight (kg/hl)	75,00	81,10	77,97
Total Damaged Kernels (%)	0,10	2,80	0,79
Foreign Material (%)	0,00	0,90	0,18
Shrunken and Broken Kernels (%)	0,10	0,90	0,39
Yellow Berry Kernels (%)	0,00	8,30	1,58
Protein (13,5% Moisture) (%)	9,6	16,0	12,9
Protein (dry basis) (%)	11,1	18,5	14,9
Weight of 1000 Kernels (g.)	27,10	37,10	32,10
Cenizas (S.S.S.) (%)	1,615	2,255	1,906

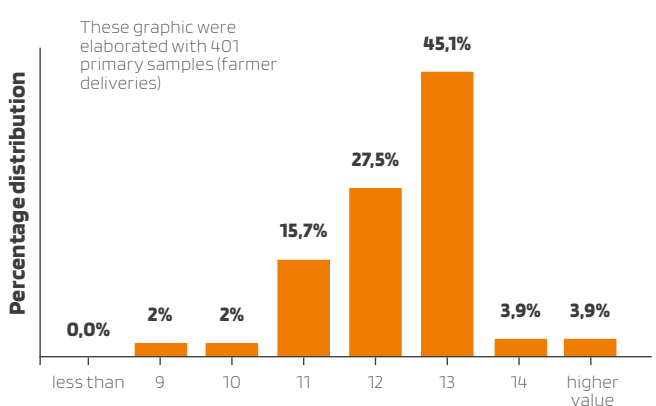
FLOUR ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
MILLING			
Wet Gluten (%)	20,7	37,2	32,1
Dry Gluten (%)	7,5	13,3	11,2
Falling Number (sec.)	367	539	458
Flour Yield (%)	62,5	72,8	70,2
Ash (dry basis) (%)	0,525	0,795	0,651
FARINOGRAM			
Water Absorption (14% H ² O) (%)	55,4	64,0	59,9
Development Time (min.)	6,1	14,5	10,2
Stability (min.)	13,9	30,7	19,8
Degree of Softening (12 min.)	13	42	29
ALVEOGRAM			
P (mm)	58	155	89
L (mm)	42	151	111
W Joules x 10 ⁻⁴	192	431	322
P / L	0,39	3,60	0,89



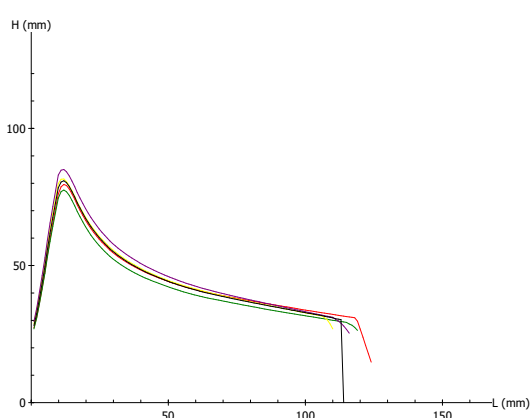
Grade distribution



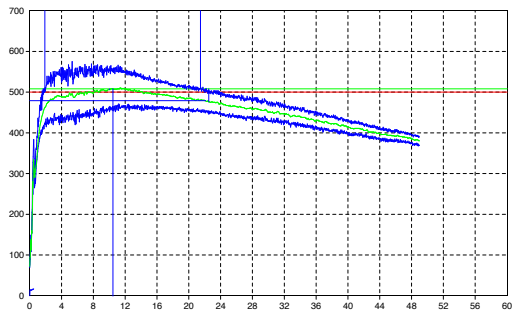
Protein (13.5% Moisture)



Alveogram



Farinogram



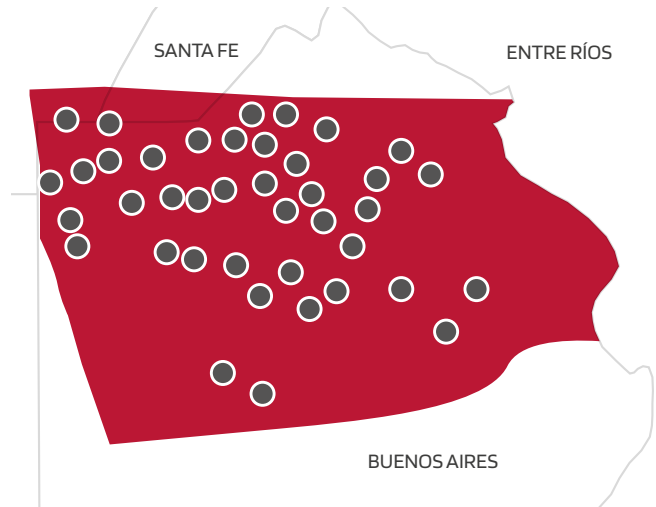
BREAD WHEAT

Subregion II S. Analysis results

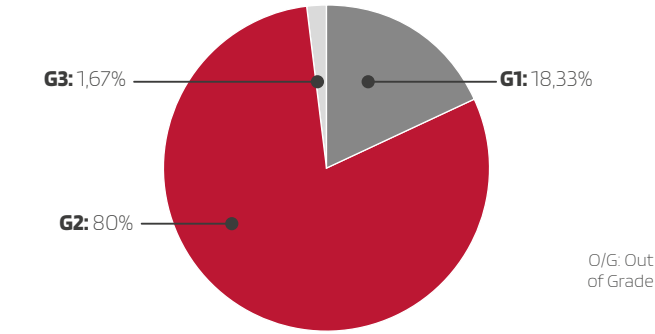
Weighted averages by tons of samples sets per location

WHEAT ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
Test Weight (kg/hl)	76,10	81,90	79,30
Total Damaged Kernels (%)	0,06	0,96	0,35
Foreign Material (%)	0,10	0,93	0,29
Shrunken and Broken Kernels (%)	0,04	0,64	0,27
Yellow Berry Kernels (%)	0,00	12,00	4,45
Protein (13,5% Moisture) (%)	9,2	12,2	10,4
Protein (dry basis) (%)	10,6	14,1	12,0
Weight of 1000 Kernels (g.)	33,51	38,01	35,65
Cenizas (S.S.S.) (%)	1,415	1,909	1,710

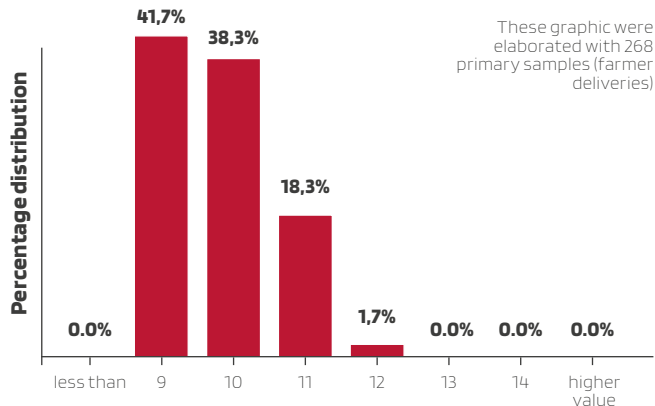
FLOUR ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
MILLING			
Wet Gluten (%)	19,5	29,7	24,4
Dry Gluten (%)	7,2	11,4	9,1
Falling Number (sec.)	344	509	415
Flour Yield (%)	67,7	74,8	72,2
Ash (dry basis) (%)	0,478	0,681	0,572
FARINOGRAM			
Water Absorption (14% H ² O) (%)	50,9	70,0	55,4
Development Time (min.)	3,4	42,0	12,9
Stability (min.)	11,2	60,0	36,0
Degree of Softening (12 min.)	2	47	16
ALVEOGRAM			
P (mm)	44	165	89
L (mm)	32	118	78
W Joules x 10 ⁻⁴	149	368	251
P / L	0,49	3,94	1,24



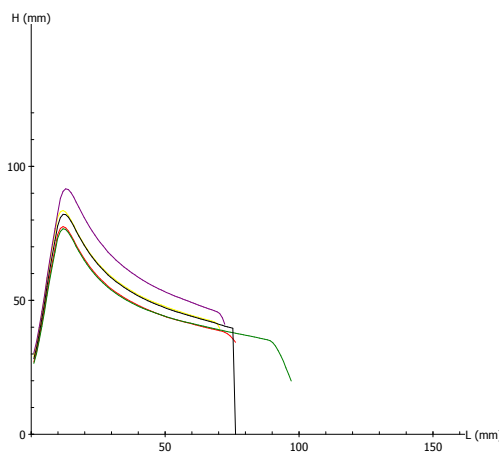
Grade distribution



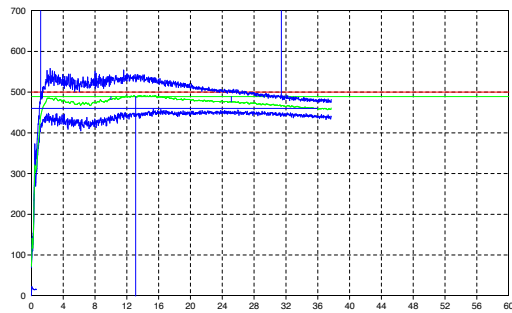
Protein (13.5% Moisture)



Alveogram



Farinogram



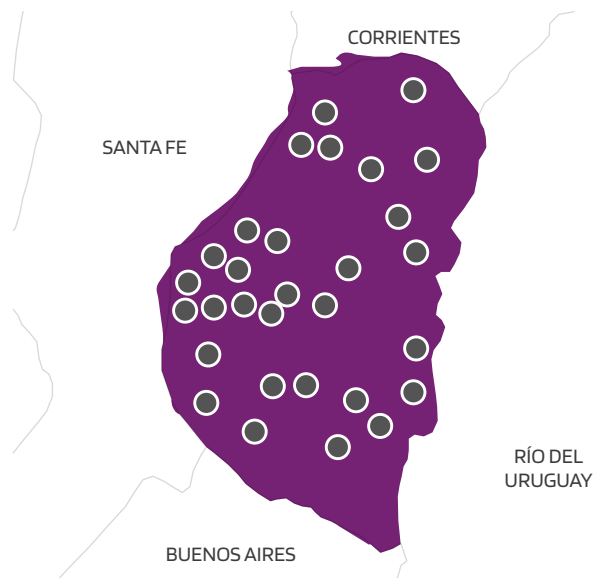
BREAD WHEAT

Subregion III. Analysis results

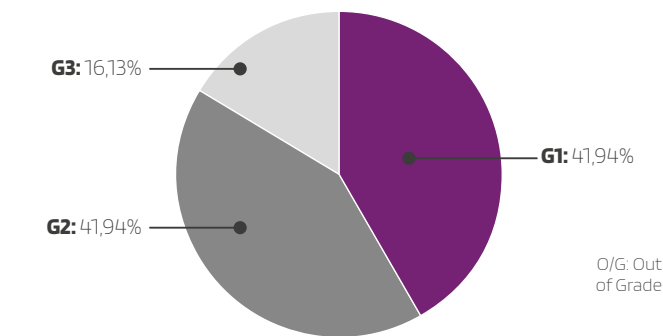
Weighted averages by tons of samples sets per location

WHEAT ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
Test Weight (kg/hl)	75,30	82,10	79,24
Total Damaged Kernels (%)	0,10	2,75	0,86
Foreign Material (%)	0,06	0,69	0,26
Shrunken and Broken Kernels (%)	0,16	1,57	0,60
Yellow Berry Kernels (%)	0,15	11,31	2,61
Protein (13,5% Moisture) (%)	10,0	12,2	11,1
Protein (dry basis) (%)	11,6	14,1	12,8
Weight of 1000 Kernels (g.)	30,74	36,60	33,12
Cenizas (S.S.S.) (%)	0,640	1,590	1,062

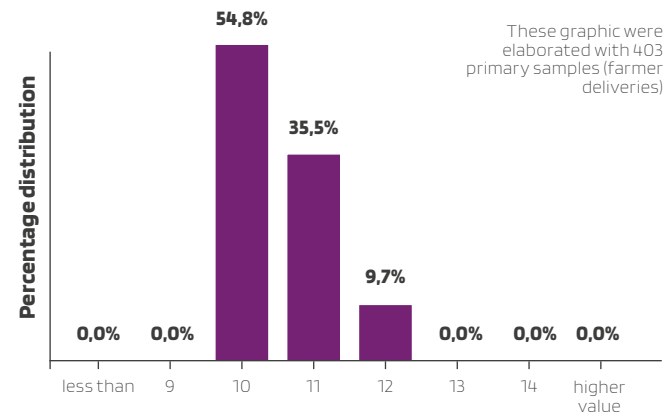
FLOUR ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
MILLING			
Wet Gluten (%)	23,8	27,2	26,0
Dry Gluten (%)	8,1	9,8	9,2
Falling Number (sec.)	317	421	372
Flour Yield (%)	66,7	72,7	71,0
Ash (dry basis) (%)	0,460	0,800	0,578
FARINOGRAM			
Water Absorption (14% H ⁺) (%)	53,9	61,5	57,5
Development Time (min.)	2,2	13,7	8,7
Stability (min.)	6,7	30,5	18,7
Degree of Softening (12 min.)	9	93	38
ALVEOGRAM			
P (mm)	53	114	80
L (mm)	65	140	94
W Joules x 10 ⁻⁴	195	320	257
P / L	0,38	1,75	0,91



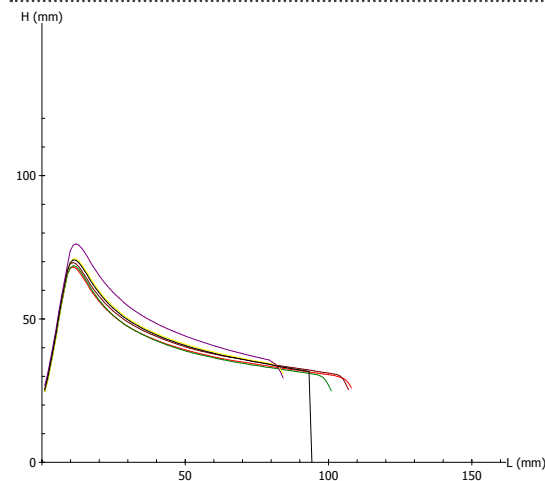
Grade distribution



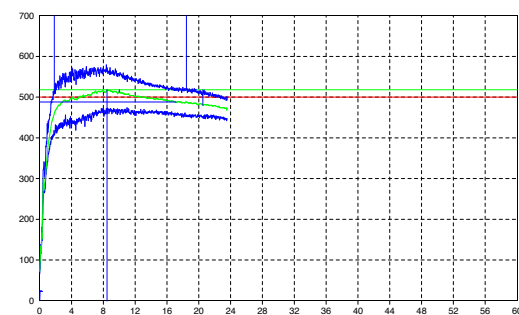
Protein (13.5% Moisture)



Alveogram



Farinogram



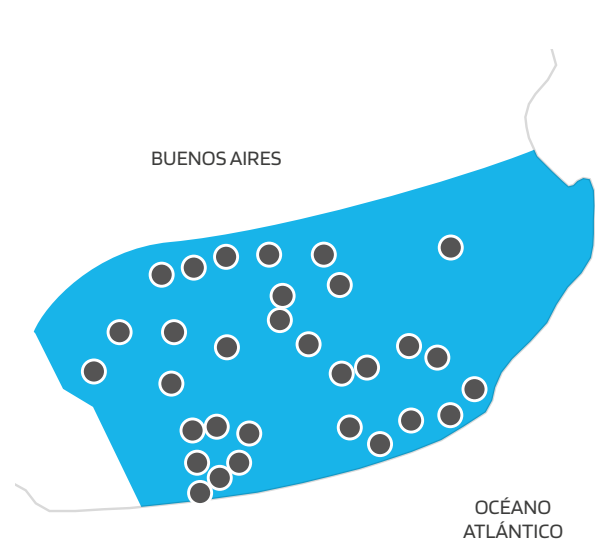
BREAD WHEAT

Subregion IV. Analysis results

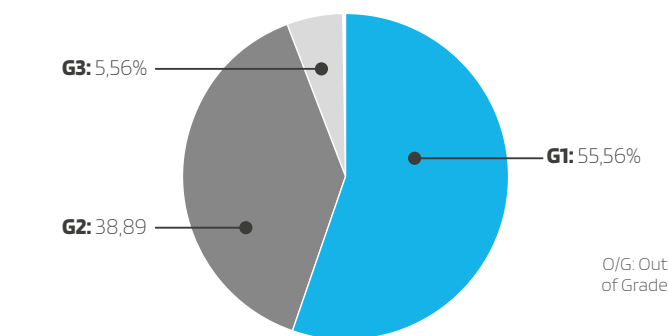
Weighted averages by tons of samples sets per location

WHEAT ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
Test Weight (kg/hl)	76,00	81,40	79,30
Total Damaged Kernels (%)	0,00	2,76	0,36
Foreign Material (%)	0,09	2,47	0,44
Shrunken and Broken Kernels (%)	0,04	0,74	0,31
Yellow Berry Kernels (%)	0,00	17,20	3,24
Protein (13,5% Moisture) (%)	9,3	11,4	10,1
Protein (dry basis) (%)	10,8	13,2	11,7
Weight of 1000 Kernels (g.)	31,70	44,50	38,56
Cenizas (S.S.S.) (%)	1,453	1,763	1,605

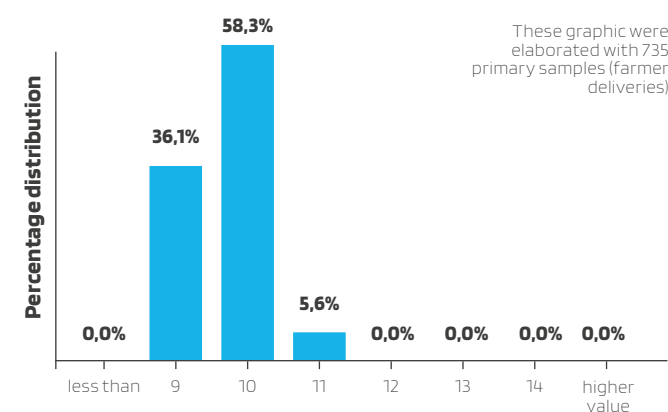
FLOUR ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
MILLING			
Wet Gluten (%)	18,9	28,4	23,8
Dry Gluten (%)	7,0	10,5	8,7
Falling Number (sec.)	184	446	373
Flour Yield (%)	68,7	75,7	72,5
Ash (dry basis) (%)	0,499	0,646	0,562
FARINOGRAM			
Water Absorption (14% H ⁺) (%)	50,0	66,8	55,6
Development Time (min.)	1,7	55,3	11,9
Stability (min.)	1,3	60,0	35,1
Degree of Softening (12 min.)	3	91	30
ALVEOGRAM			
P (mm)	49	161	98
L (mm)	42	94	62
W Joules x 10 ⁻⁴	120	300	228
P / L	0,81	3,74	1,71



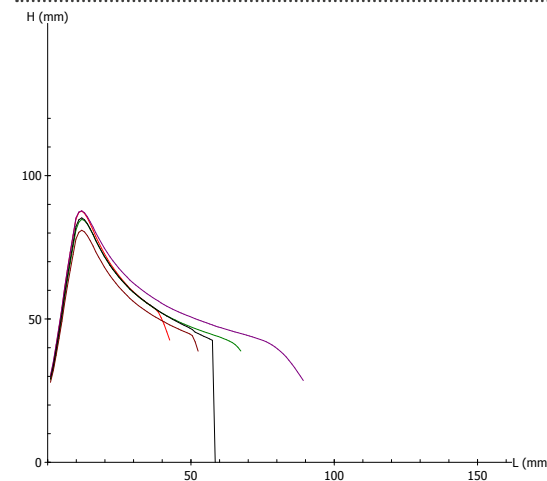
Grade distribution



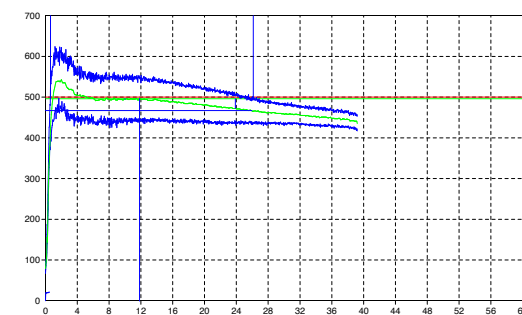
Protein (13.5% Moisture)



Alveogram



Farinogram



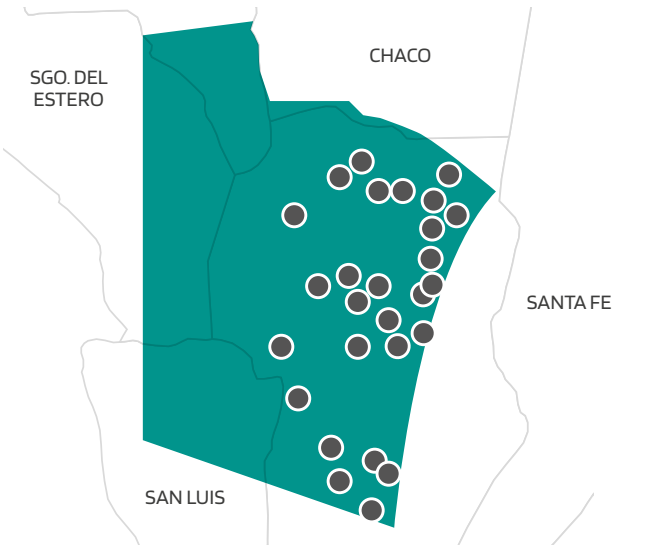
BREAD WHEAT

Subregion V N. Analysis results

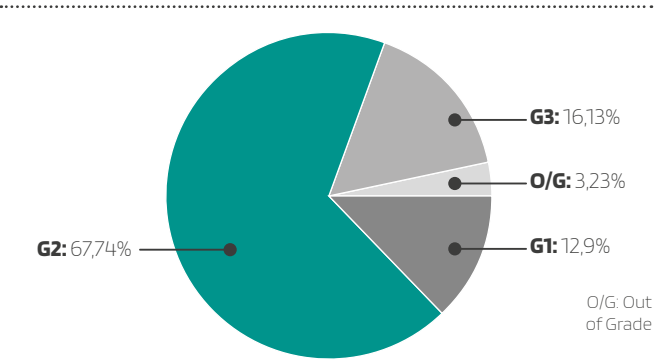
Weighted averages by tons of samples sets per location

WHEAT ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
Test Weight (kg/hl)	73,20	82,15	78,82
Total Damaged Kernels (%)	0,09	3,77	0,68
Foreign Material (%)	0,06	1,00	0,29
Shrunken and Broken Kernels (%)	0,09	1,25	0,59
Yellow Berry Kernels (%)	0,00	14,80	2,23
Protein (13,5% Moisture) (%)	9,2	16,1	12,1
Protein (dry basis) (%)	10,6	18,6	14,0
Weight of 1000 Kernels (g.)	28,53	36,02	31,45
Cenizas (S.S.S.) (%)	1,584	2,175	1,855

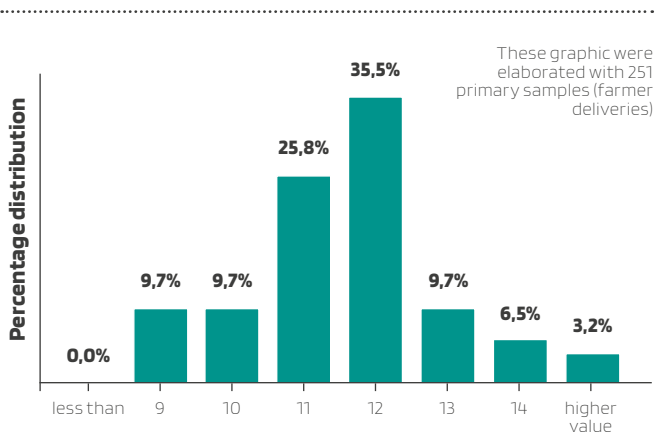
FLOUR ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
MILLING			
Wet Gluten (%)	20,7	42,9	30,1
Dry Gluten (%)	7,1	14,9	10,5
Falling Number (sec.)	371	507	434
Flour Yield (%)	66,2	73,8	69,9
Ash (dry basis) (%)	0,493	0,706	0,603
FARINOGRAM			
Water Absorption (14% H²) (%)	55,2	65,2	58,4
Development Time (min.)	1,5	15,1	8,8
Stability (min.)	1,7	25,0	17,0
Degree of Softening (12 min.)	24	96	39
ALVEOGRAM			
P (mm)	62	105	80
L (mm)	60	154	113
W Joules x 10-4	188	463	296
P / L	0,41	1,42	0,75



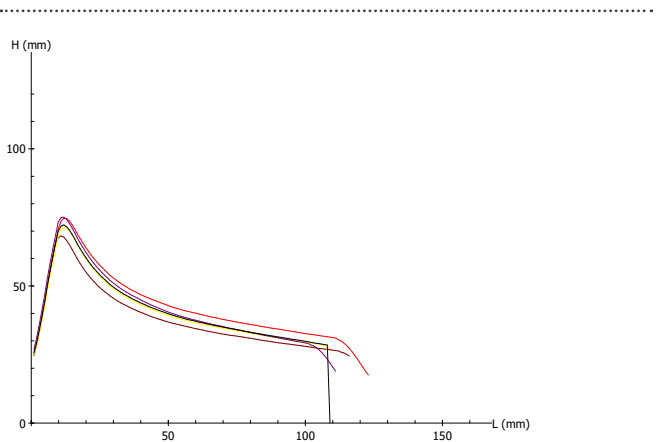
Grade distribution



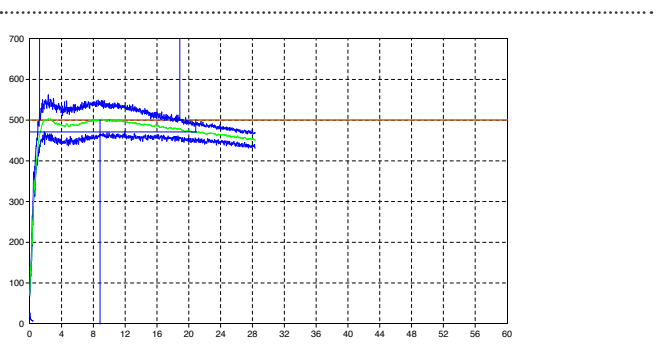
Protein (13.5% Moisture)



Alveogram



Farinogram



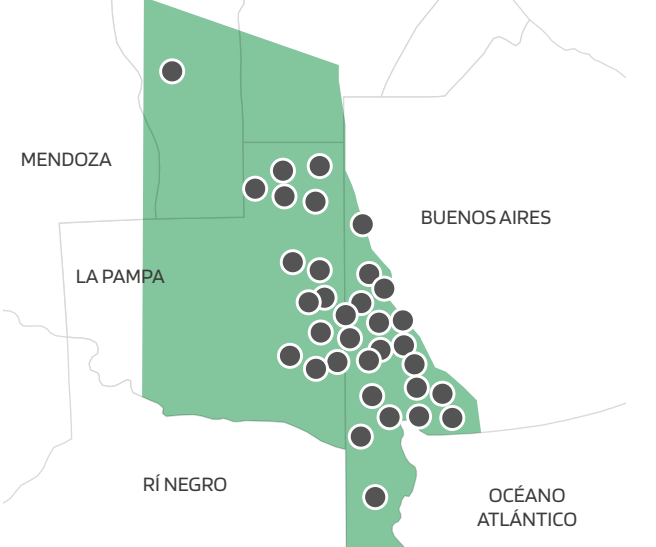
BREAD WHEAT

Subregion V S. Analysis results

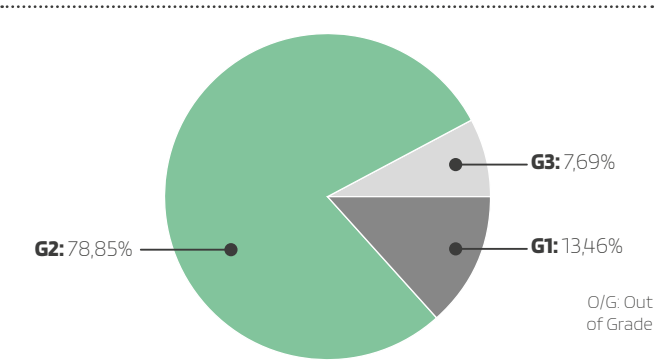
Weighted averages by tons of samples sets per location

WHEAT ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
Test Weight (kg/hl)	79,00	84,60	80,94
Total Damaged Kernels (%)	0,00	2,38	0,17
Foreign Material (%)	0,10	0,98	0,43
Shrunken and Broken Kernels (%)	0,10	1,30	0,38
Yellow Berry Kernels (%)	0,00	14,60	2,93
Protein (13,5% Moisture) (%)	9,9	14,9	11,3
Protein (dry basis) (%)	11,4	17,2	13,1
Weight of 1000 Kernels (g.)	24,50	37,70	34,74
Cenizas (S.S.S.) (%)	1,552	2,058	1,766

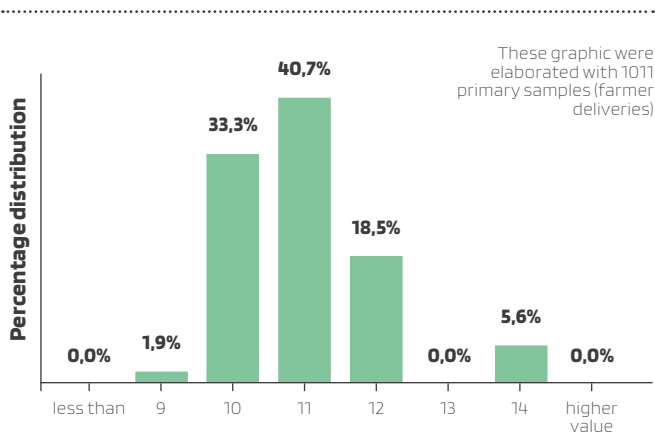
FLOUR ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
MILLING			
Wet Gluten (%)	23,4	37,2	27,5
Dry Gluten (%)	8,2	12,9	9,6
Falling Number (sec.)	339	492	430
Flour Yield (%)	65,2	76,0	70,7
Ash (dry basis) (%)	0,492	0,680	0,571
FARINOGRAM			
Water Absorption (14% H²) (%)	56,1	65,6	59,6
Development Time (min.)	2,2	12,5	8,1
Stability (min.)	6,8	35,4	16,4
Degree of Softening (12 min.)	8	57	34
ALVEOGRAM			
P (mm)	76	148	108
L (mm)	58	151	82
W Joules x 10-4	208	405	315
P / L	0,50	2,23	1,38



Grade distribution



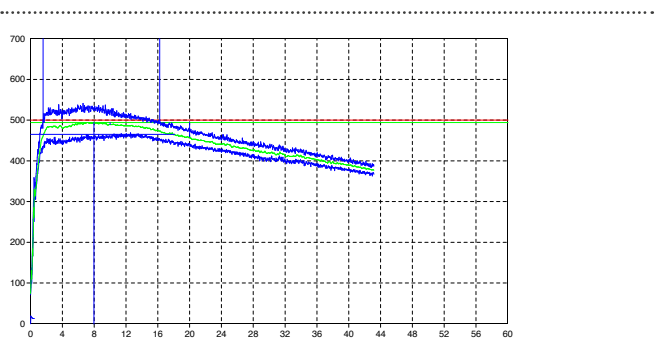
Protein (13.5% Moisture)



Alveogram



Farinogram



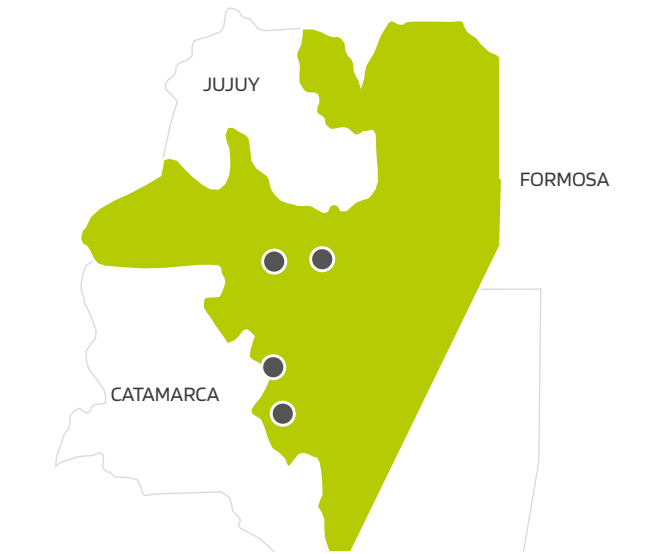
BREAD WHEAT

NOA. Analysis results

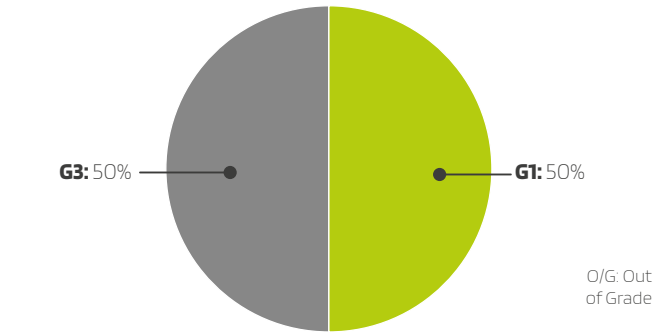
Weighted averages by tons of samples sets per location

WHEAT ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
Test Weight (kg/hl)	78,70	80,90	79,93
Total Damaged Kernels (%)	0,08	0,26	0,14
Foreign Material (%)	0,38	1,16	0,93
Shrunken and Broken Kernels (%)	0,34	0,70	0,49
Yellow Berry Kernels (%)	1,97	3,57	2,16
Protein (13,5% Moisture) (%)	10,3	12,3	11,4
Protein (dry basis) (%)	12,0	14,2	13,2
Weight of 1000 Kernels (g.)	30,26	34,23	33,12
Cenizas (S.S.S.) (%)	1,663	1,942	1,766

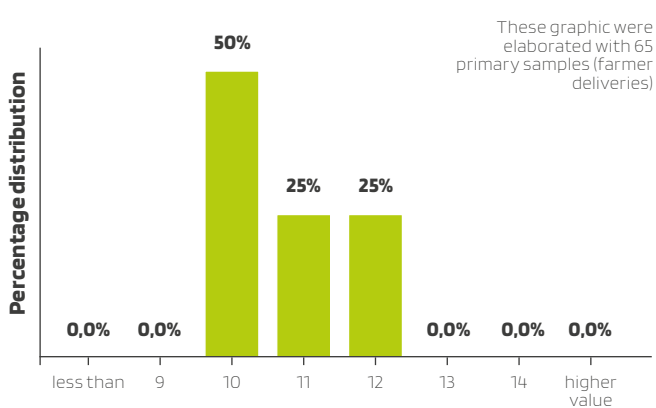
FLOUR ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
MILLING			
Wet Gluten (%)	20,6	29,5	25,7
Dry Gluten (%)	7,6	10,9	9,5
Falling Number (sec.)	389	446	419
Flour Yield (%)	68,6	70,4	70,0
Ash (dry basis) (%)	0,735	0,816	0,759
FARINOGRAM			
Water Absorption (14% H ² O) (%)	58,3	66,5	64,9
Development Time (min.)	6,2	17,3	14,0
Stability (min.)	19,2	41,0	26,6
Degree of Softening (12 min.)	1	29	17
ALVEOGRAM			
P (mm)	134	180	157
L (mm)	26	54	43
W Joules x 10 ⁻⁴	242	343	284
P / L	2,89	6,92	3,98



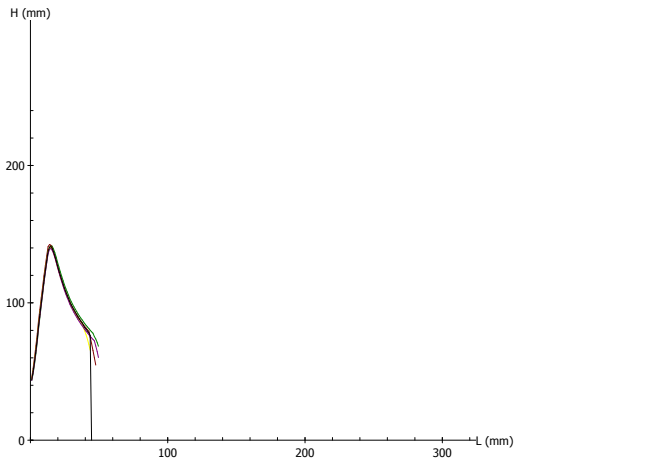
Grade distribution



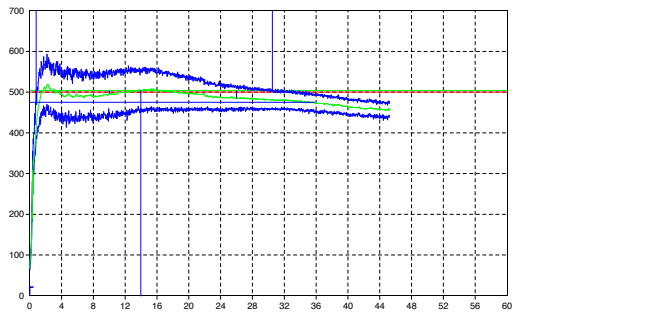
Protein (13.5% Moisture)



Alveogram



Farinogram



BREAD WHEAT

NEA. Analysis results

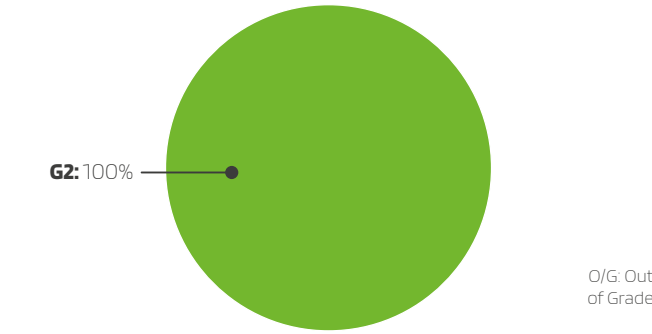
Weighted averages by tons of samples sets per location

WHEAT ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
Test Weight (kg/hl)	76,60	76,60	76,60
Total Damaged Kernels (%)	0,32	0,32	0,32
Foreign Material (%)	0,40	0,40	0,40
Shrunken and Broken Kernels (%)	0,42	0,42	0,42
Yellow Berry Kernels (%)	3,16	3,16	3,16
Protein (13,5% Moisture) (%)	9,6	9,6	9,6
Protein (dry basis) (%)	11,1	11,1	11,1
Weight of 1000 Kernels (g.)	29,19	29,19	29,19
Cenizas (S.S.S.) (%)	1,946	1,946	1,946

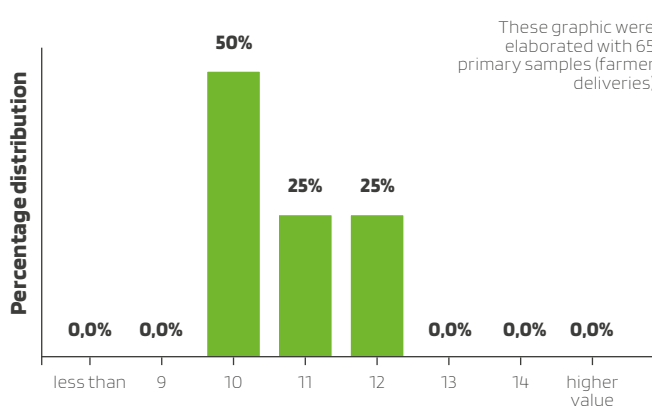
FLOUR ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
MILLING			
Wet Gluten (%)	20,0	20,0	20,0
Dry Gluten (%)	7,0	7,0	7,0
Falling Number (sec.)	430	430	430
Flour Yield (%)	0,0	0,0	0,0
Ash (dry basis) (%)	0,741	0,741	0,741
FARINOGRAM			
Water Absorption (14% H ² O) (%)	60,9	60,9	60,9
Development Time (min.)	11,9	11,9	11,9
Stability (min.)	27,0	27,0	27,0
Degree of Softening (12 min.)	19	19	19
ALVEOGRAM			
P (mm)	130	130	130
L (mm)	36	36	36
W Joules x 10 ⁻⁴	195	195	195
P / L	3,61	3,61	3,61



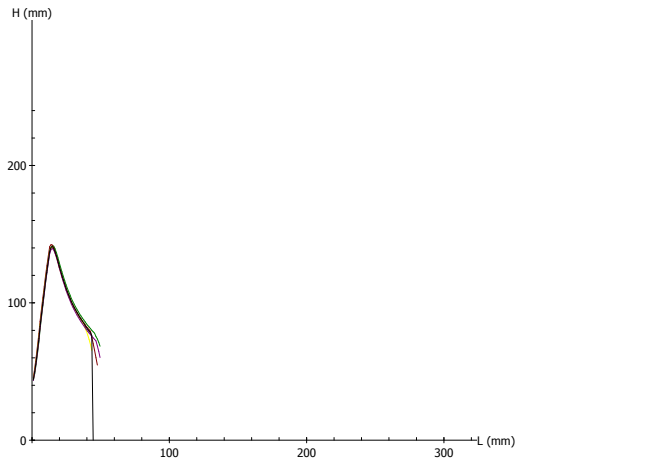
Grade distribution



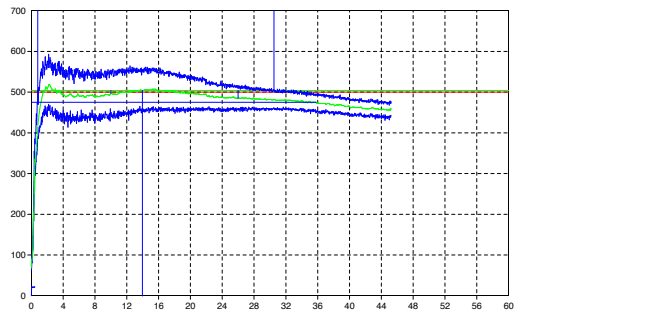
Protein (13.5% Moisture)



Alveogram



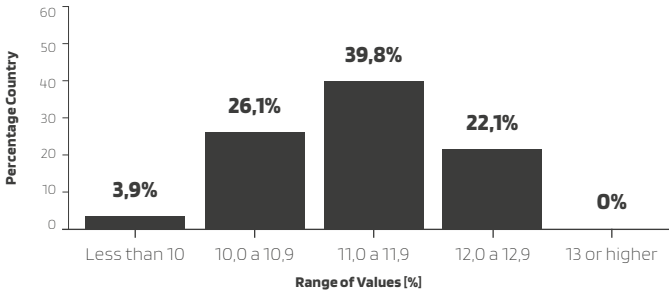
Farinogram



Tables summarize the analysis of four variables: protein in grain, wet gluten, strength determined by alveograph measurement and farinographic stability. Each variable was separated in ranges (first column). Averages were estimated for each range for each remaining variables (center column). This last column shows the percentage that corresponds to each range nationwide.

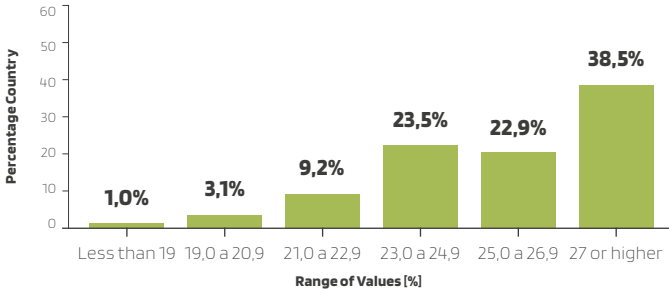
Protein

PROTEIN (13,5% MOISTURE)	WET GLUTEN W STABILITY	PERCENTAGE COUNTRY
Less than 10	22,1 · 220 · 35,3	3,9%
10,0 a 10,9	24,9 · 248 · 26,6	26,1%
11,0 a 11,9	27,4 · 290 · 21,1	39,8%
12,0 a 12,9	30,0 · 311 · 21,0	22,1%
13,0 or higher	34,5 · 344 · 19,1	0%



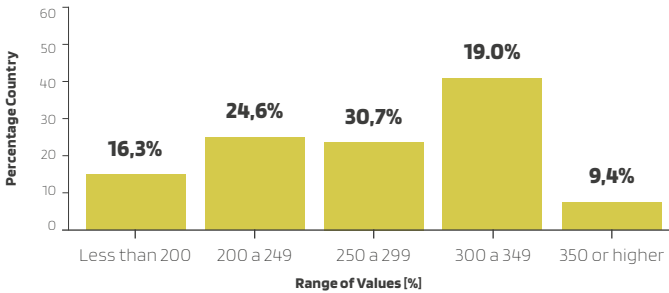
Wet Gluten

WET GLUTEN	WET GLUTEN W STABILITY	PERCENTAGE COUNTRY
Less than 19,0	10,2 · 120 · 26,3	1,0%
19,0 a 20,9	9,7 · 208 · 32,1	3,1%
21,0 a 22,9	9,8 · 224 · 39,7	9,2%
23,0 a 24,9	10,4 · 241 · 28,5	23,5%
25,0 a 26,9	10,9 · 271 · 20,3	22,9%
27,0 or higher	12,4 · 313 · 20,8	38,5%



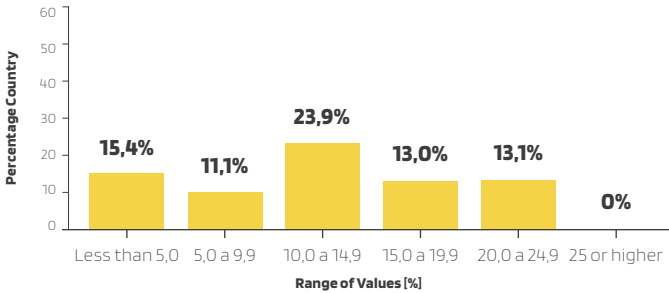
W

W	WET GLUTEN PROTEIN. STABILITY	PERCENTAGE COUNTRY
Less than 200	22,5 · 10,0 · 36,3	16,3%
200 a 249	24,2 · 10,4 · 31,5	24,6%
250 a 299	27,0 · 11,2 · 20,7	30,7%
300 a 349	29,7 · 12,1 · 20,6	19,0%
350 or higher	32,8 · 13,2 · 21,5	9,4%



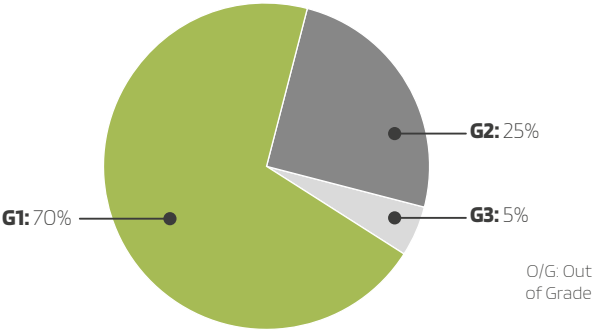
Stability

STABILITY	WET GLUTEN PROTEIN W	PERCENTAGE COUNTRY
Less than 5,0	24,0 · 10,5 · 228	15,4%
5,0 a 9,9	28,5 · 11,8 · 276	11,1%
10,0 a 14,9	28,3 · 11,6 · 281	23,9%
15,0 a 19,9	29,4 · 11,9 · 306	13,0%
20,0 a 24,9	28,5 · 11,8 · 298	13,1%
25 or higher	24,9 · 10,6 · 253	0%



WHEAT ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
Test Weight (kg/hl)	79,00	82,60	80,64
Total Damaged Kernels (%)	0,00	1,00	0,20
Foreign Material (%)	0,14	2,04	0,61
Shrunk and Broken Kernels (%)	0,10	1,48	0,57
Yellow Berry Kernels (%)	9	73	42
Protein (13,5% Moisture) (%)	0,18	5,60	2,61
Protein (dry basis) (%)	9,9	13,6	11,5
Weight of 1000 Kernels (g.)	11,4	15,7	13,3
Cenizas (S.S.S.) (%)	38,30	51,30	44,34
Cenizas (s.s.s.) %	1,480	1,870	1,711

Grade distribution



WHEAT ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
Falling Number (seg.)	427	639	483
Colour(B)	17,8	23,4	20,7
Wet Gluten (%)	18,9	33,9	26,8
Gluten Index	30	100	77
FARINOGRAM			
Energy Level	27,2	35,3	31,8
ALVEOGRAM			
Degree Softening (%)	19	38	28

CROP 2020-2021	
Planted Area (ha)	129.255
Harvested Area (ha)	128.474,00
Average Yeld (Kq/ha)	3.713,82
Production (tn)	477.129,00

Reference: Secretaría de Agroindustria de la Nación

